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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,608	01/14/2004	Thomas Ying-Ching Lo	017886-000810US	5384

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EXAMINER	
JAWORSKI, FRANCIS J	

ART UNIT	PAPER NUMBER
3768	

DATE MAILED: 11/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/758,608	LO ET AL.	
	Examiner	Art Unit	
	Jaworski Francis J.	3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *5/21, 8/5, 8/12, 9/230/4, 6/9/06*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *49 -104 (Rule 126 re-numbering)* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *49-104* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 January 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner. (lettering Fig 1, 5, 6)

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/21, 8/5, 8/12, 9/23/4, 6/9/6*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Double Patenting

Claims 49 – 51, 57 – 67, 75 – 78, 83 - 88 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over 1 – 3, 5 – 17 of U.S. Patent No. 6843771. Although the conflicting claims are not identical, they are not patentably distinct from each other because the current application broadens over the parent base claim apparatus and implementation method by omitting limitations to other aspects such as elastomer tensile strength and elongation fraction. The use of a separate 'module' for a display would have been inherently obvious since unlike the remaining electronics this portion has to be positioned so as to be a visible interface to the user. The sensor-housing module would in at least some cases be inclined relative to the target since the radial and/or ulnar arteries are not perfectly parallel to the skin. The overall cross-sectional shape of the gel pad would be a matter of design choice so long as the sensor pair are directed at the artery so long as the sensor pair is directed at the underlying artery.

Claims 52 – 56 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 7 of U.S. Patent No. 6843771 in view of any of Brewer et al (US4947859) or Komo et al (US5318035) or Mendlein et al (US2002/0068871). Whereas the former claims butadiene-styrene polymer, it would have been obvious in view of Brewer et al col. 5 lines 4-25 to use styrene-butadiene or styrene-isoprene block copolymers since these were analogously known to be acoustically transmissive materials for acoustic detection of bloodflow , or Komo et al col. 4 lines 20 – 27 evidencing that these polymer materials were previously known as

transmissive ultrasound imaging couplants, or Mendlein et al para [0176] which identifies these materials and/or like materials in terms of inexpensive for individual use ultrasonic coupling to the skin.

Claims 68 and 89 – 93, 98 – 99, 101 - 103* [Formerly claims 102-104 - Rule 1.126 consecutive re-numbering; no claim 100 presented) are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims of U.S. Patent No. 6843771 in view of Crutchfield et al (US6992443) insofar as the latter would teach use of 2Mhz operating frequency in order to obtain Doppler shift information with regards to pulsatile bloodflow.

Claims 69, 71 – 72 and 79 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims previously listed of U.S. Patent No. 6843771 in view of Kamimoto et al (US6371920) insofar as the latter would teach that an ultrasound cardiotachometer having Doppler sensor pairs placed over the radial artery would include a roof angle within the range of 5 – 45 degrees, see Figs. 4B and 4C.

Claims 70, 73 – 74 and 79 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims as listed above of U.S. Patent No. 6843771 in view of Nakamura et al (US6554772) insofar as the latter would teach that implicit in the design of ultrasound Doppler transducer pairs for radial or ulnar artery skin surface apposition would be a .05 – 4.0 mm sensor spacing.

Claims 80 – 82 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims of U.S. Patent No. 6843771 in view

of Durley (US4413629) insofar as the latter would teach mixer de-modulation of the ultrasound Doppler amplitude or frequency modulated output from a Doppler transducer pair in order to detedct heart rate within the body.

Claim 94 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims of U.S. Patent No. 6843771 in view of Crutchfield et al , further in view of Yamimoto et al as the latter was applied above.

Claims 95 – 97, 100, 104* [Former claims 101, 105 – Rule 1.126 consecutive re-numbering; no claim 100 presented]. are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims of U.S. Patent No. 6843771 in view of Crutchfield et al, further in view of Nakamura et al for reasons set forth above, Nakamura et al showing per se a zero degree roof angle.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 89 – 104* [after Rule 126 consecutive re-numbering of claims 101-105 in the absence of a presented claim 100] are rejected under 35 U.S.C. 103(a) as being unpatentable over The combined teachings of Nakamura et al, Crutchfield et al and Yamimoto et al, since the references establish that pulsatile measurementws were well-known in association with lower Doppler 2Mhz frequencies dependent upon expected shift range and in association with wristwatch –type modules associated with brachial or ulnar artery measurements where the claimed dimensions and angulations are taught as appurtenant to measurement using small sensors on local subsurface arteries.

Any inquiry concerning this communication should be directed to Jaworski Francis J. at telephone number 571-272-4738.

FJJ:fjj

09112006

Francis J. Jaworski
Primary Examiner